

ASW 14-30-PC

Repair instructions





Contents

- 1. Models described**
- 2. Technical data**
- 3. Notes / requirements**
- 4. Tools required**
- 5. Lubricants and auxiliary substances required**
- 6. Disassembly**
- 7. Assembly**
- 8. Troubleshooting**
- 9. Connection diagram**



1. Models described

These instructions describe how to repair the following models:

Model	Order no.
ASW 14-30-PC	7 112 53 00 95 0



2. Technical data

Technical data

The complete technical data can be found in the operating instructions for the model.

Test data

Up-to-date test data for all models can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lubricants

The lubricants and container sizes available from FEIN can be found on the FEIN Extranet (Customer Service → Repair Guides).

Lists of spare parts

Lists of spare parts and exploded views are available online at www.fein.com



3. Notes / requirements

Note

These instructions are only intended for persons with suitable technical training. It is assumed that the reader has mechanical and electrical training.

Only use original FEIN spare parts!

Requirements

Please note that power tools may only be repaired, maintained and checked by a trained electrician, as improper repair can result in serious risks to the user.

The provisions set out in **DIN VDE 0701-0702** should be observed after repairs.

The relevant accident prevention regulations of the employers' liability insurance associations are to be observed when commissioning.

The German Equipment and Product Safety Act applies for correct use.

Outside Germany, the regulations applicable in the relevant country must be observed!



3. Notes / requirements



WARNING!

Damage from electrostatic charging.

Failure to comply with the safety regulations for ESD protection may cause tool damage.

- ☞ Only undertake assembly/disassembly work on the tool at a workplace with ESD protection.



4. Tools required

Standard tool

- Torx 10 screwdriver
- Small slotted screwdriver
- Circlip pliers
- Circlip pliers (ground)
- Open-ended spanner, WAF 27, 32
- Flat nose pliers
- Feeler gauge
- Spring balance

Special tools

- | | |
|--------------------------|------------------|
| - Torque wrench | 3 21 23 002 00 6 |
| - Drawing-off socket cap | 6 41 04 150 00 8 |
| - Puller | 6 41 07 019 00 7 |
| - Adjustable pin wrench | 6 29 10 029 00 7 |

NOTE

You can only order special tools with an order number from FEIN.



5. Lubricants and auxiliary substances required

Lubricants

ASW

Grease	3 21 600 14 23 0	0.6g	Tool holder; switch ring; cam ring
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Auxiliary substances

Loctite 638



6. Disassembly

Removing angled head



1. Grip thread ring (1) and unscrew angled head (2) (left-handed thread).

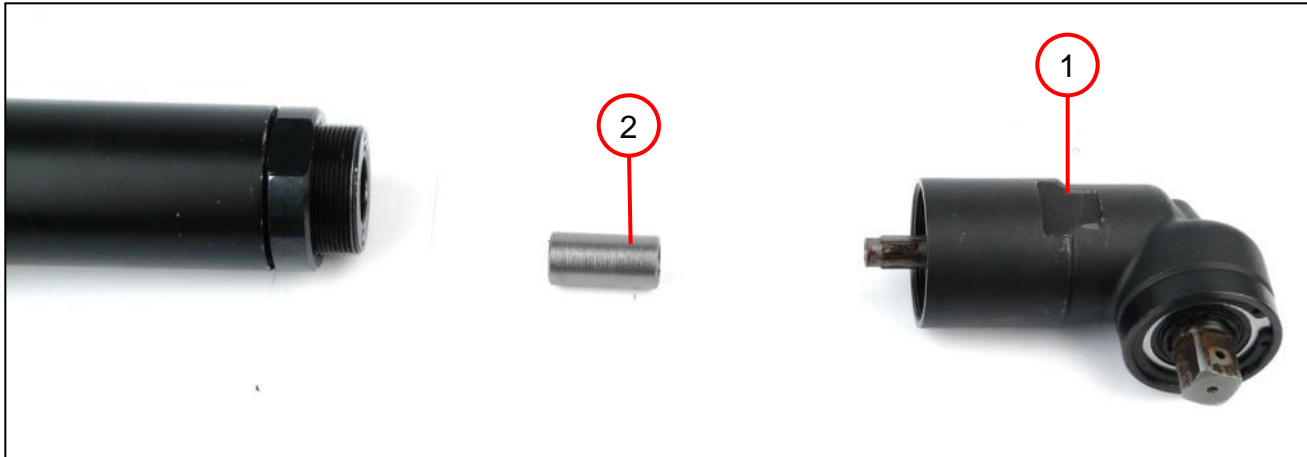
Tools:

- Open-ended spanner, WAF 27
- Open-ended spanner, WAF 32



6. Disassembly

Removing angled head



1. Take off angled head (1).
2. Remove connector (2).

Tools:

- Open-ended spanner, WAF 27
- Open-ended spanner, WAF 32



6. Disassembly

Removing planetary gear



1. Remove round seal ring (1).

Tools:

-Small screwdriver



6. Disassembly

Disassembling housing



1. Loosen the eight screws (1).

Tools:

- Torx T10 screwdriver



6. Disassembly

Disassembling housing



1. Slide sliding cover (1) into gearbox housing.
2. Carefully pry off top part of housing (2).
 - ☞ Place screwdriver between coupling and housing.

Tools:

- Screwdriver

6. Disassembly

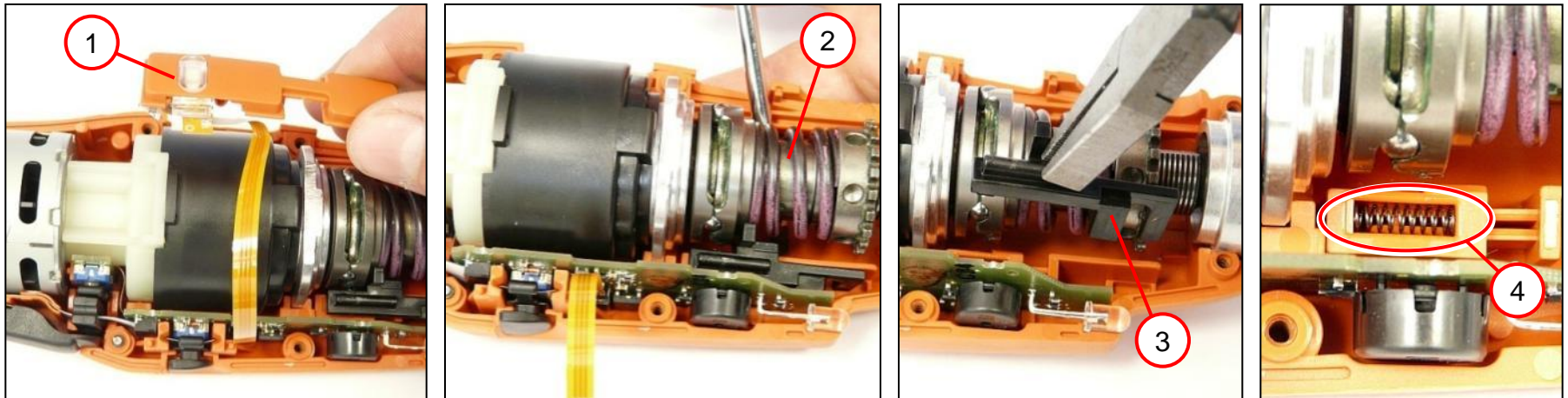
Disassembling housing



1. Remove upper part of housing (1).

6. Disassembly

Removing clutch



1. Carefully remove the electronic strip (1).
2. Lift the clutch (2) slightly with a screwdriver.

NOTE

When the slide switch is removed, the spring (4) may jump out slightly.

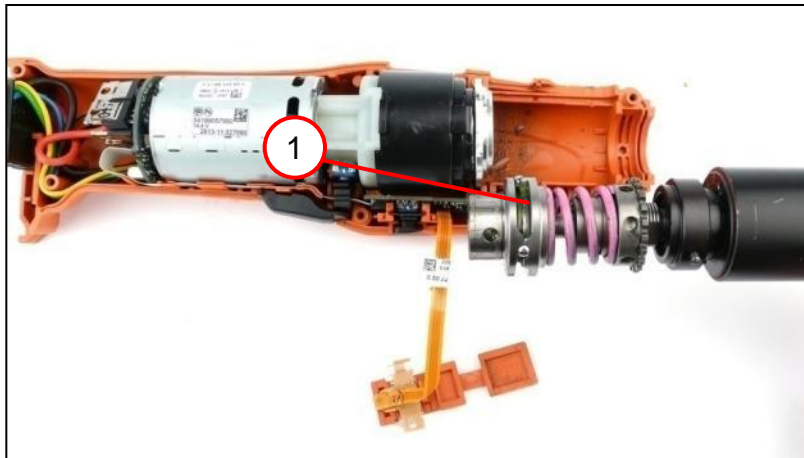
3. Remove slide switch (3).
4. Remove spring (4).

Tools:

- Slotted screwdriver
- Flat-nose pliers

6. Disassembly

Removing clutch

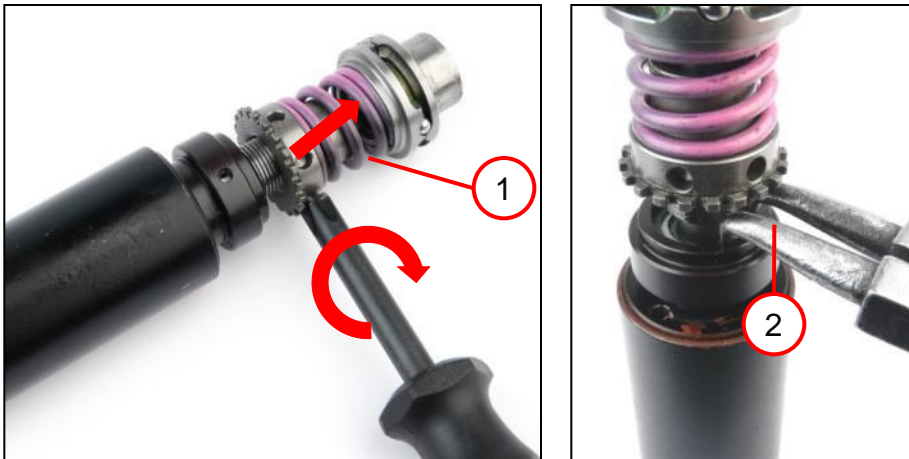


1. Remove clutch (1).
2. Pull out straight pins (2) from the flange.



6. Disassembly

Removing clutch



1. Tension the spring (1) fully to allow better access to the circlip.
☞ The adjusting ring has a left-handed thread.
2. Remove circlip (2).

NOTE

You need modified circlip pliers to dismantle the circlip. The upper side of the pliers must be ground flat.

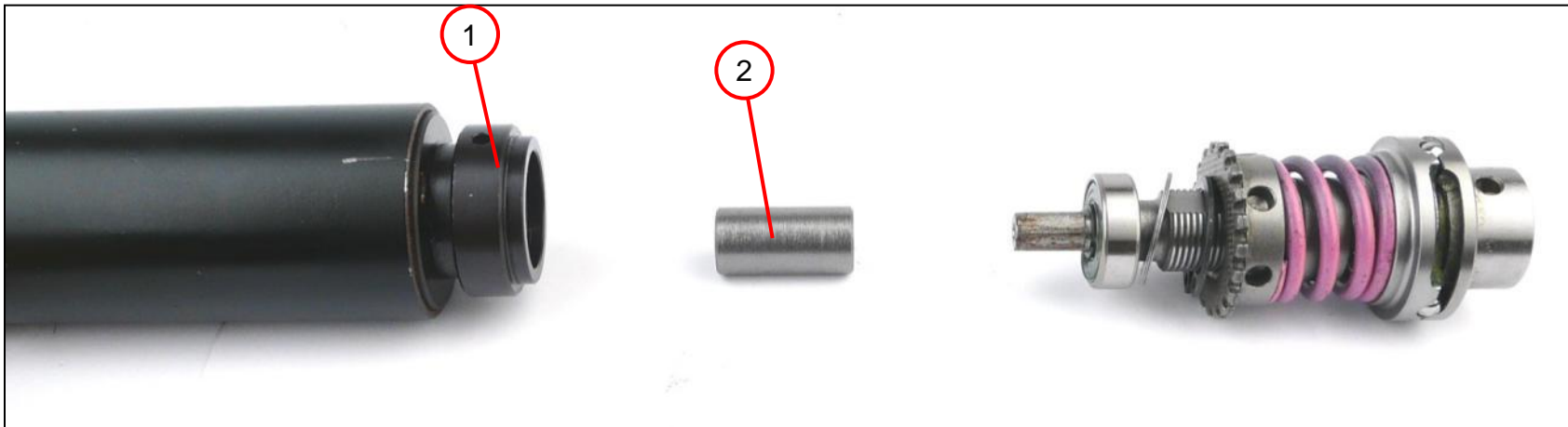
Tools:

- Torque wrench (supplied)
- Circlip pliers (ground)



6. Disassembly

Removing clutch



NOTE

The compensating discs in front of and behind the ball bearing must be replaced in the same position upon assembly. The discs are used to adjust play between slide switch and switch ring on clutch.

1. Remove flange (1) and take disc(s) out of flange.
2. Remove connector (2).

☞ The flange and gearbox are inseparably glued with Loctite, spare parts are supplied individually and have to be glued together upon assembly.

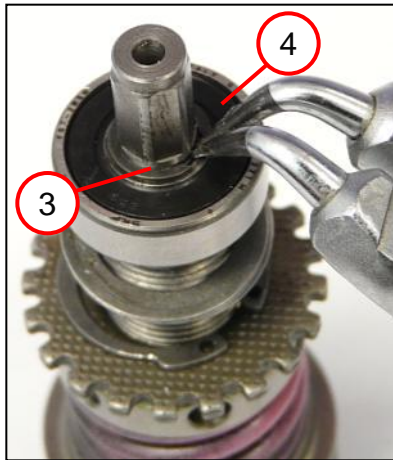
Tools:

- Circlip pliers
- Drawing-off socket cap
(6 41 04 150 00 8)
- Ball bearing puller 19mm
(6 41 07 019 00 7)



6. Disassembly

Removing clutch



1. Remove circlip (3).
☞ Use a new circlip for assembly each time.
2. Pull off ball bearing (4).

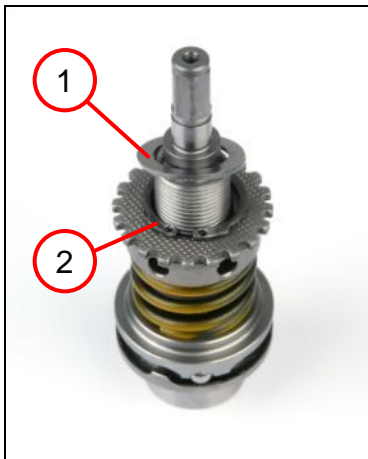
Tools:

- Circlip pliers
- Drawing-off socket cap
(6 41 04 150 00 8)
- Ball bearing puller 19mm
(6 41 07 019 00 7)



6. Disassembly

Removing clutch

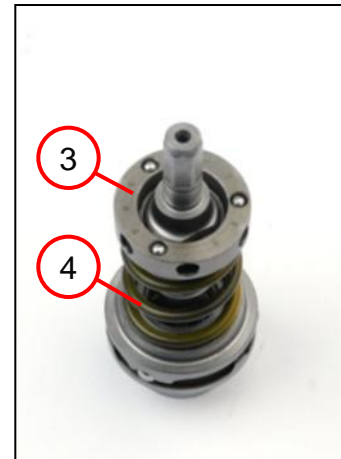
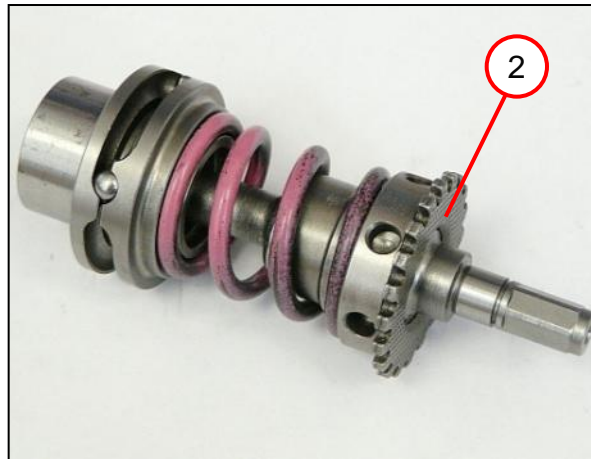
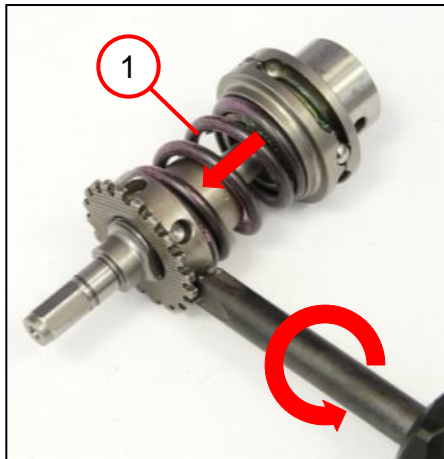


1. Remove discs (1).
2. Remove circlip (2).



6. Disassembly

Removing clutch



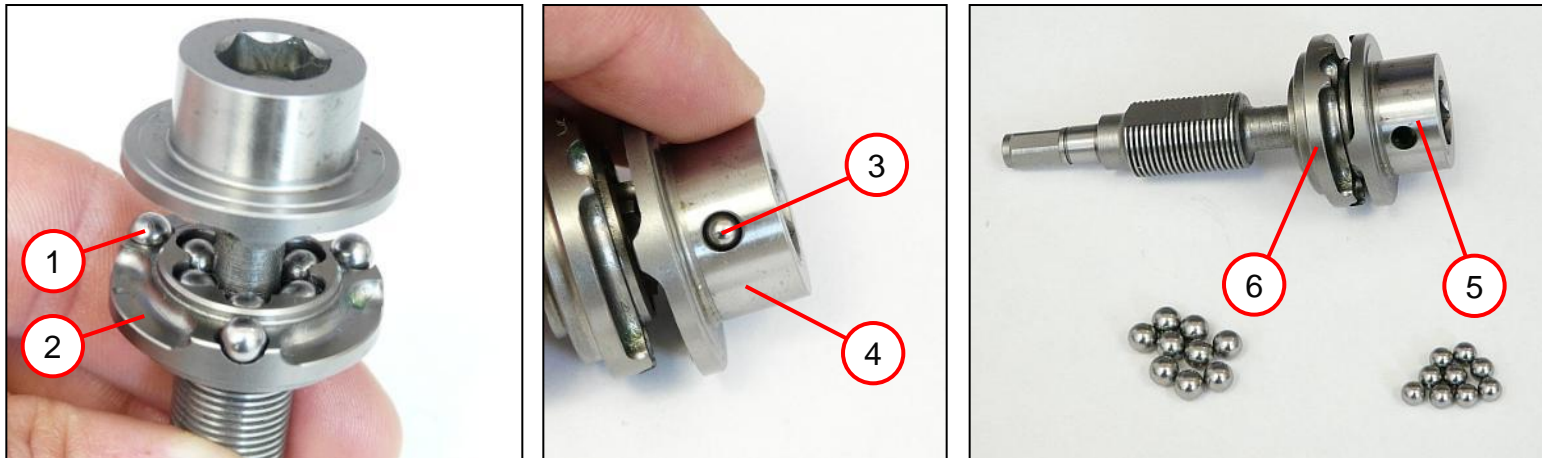
1. Release all tension on spring (1).
2. Unscrew adjusting ring (2) (left-handed thread).
3. Remove ring (3), the three balls and spring (4).

Tools:

-Torque wrench

6. Disassembly

Removing clutch



1. Remove nine balls (1) from inner clutch ring (2).
2. Shake nine balls (3) out of hole in outer clutch ring (4).
3. Remove two clutch rings (5 and 6).

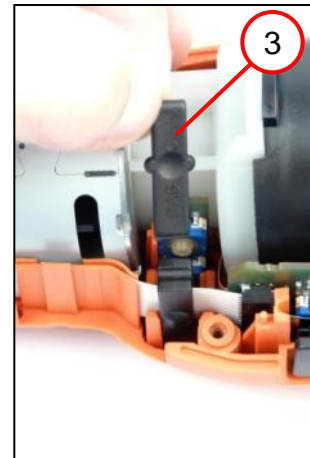
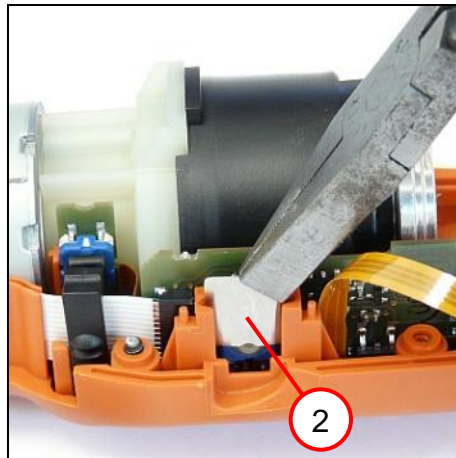
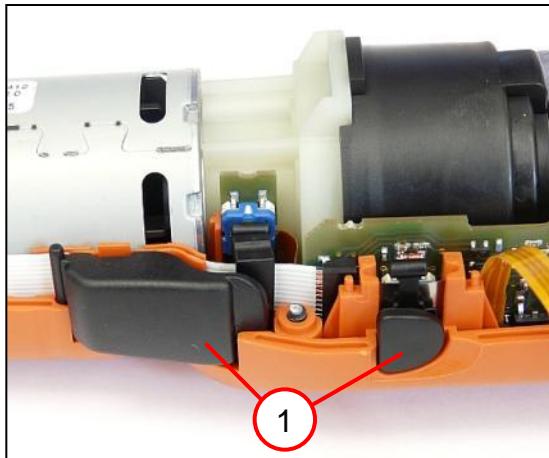
NOTE

Degreasing the clutch ring before disassembly makes it easier to remove the balls.



6. Disassembly

Removing switch pushbuttons



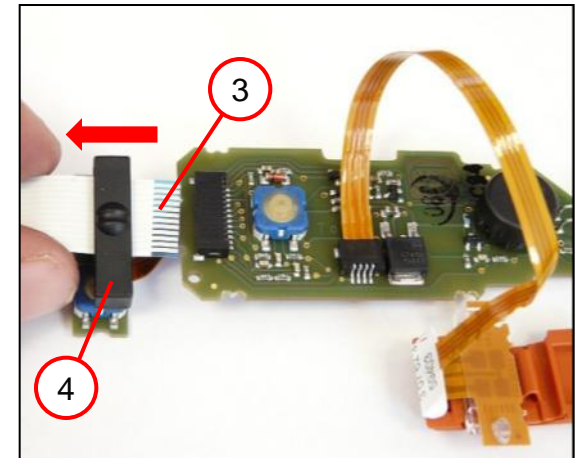
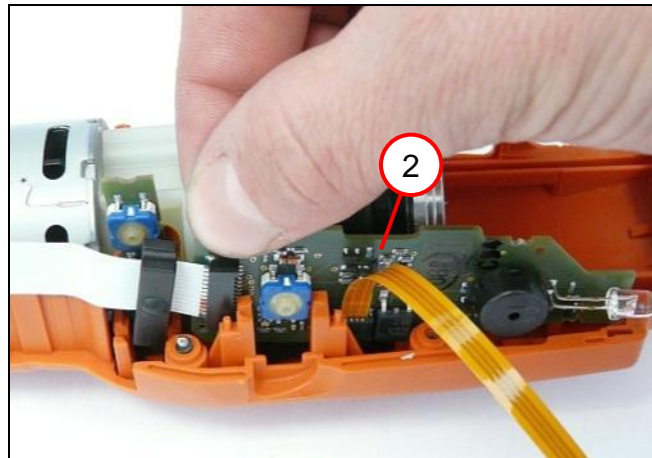
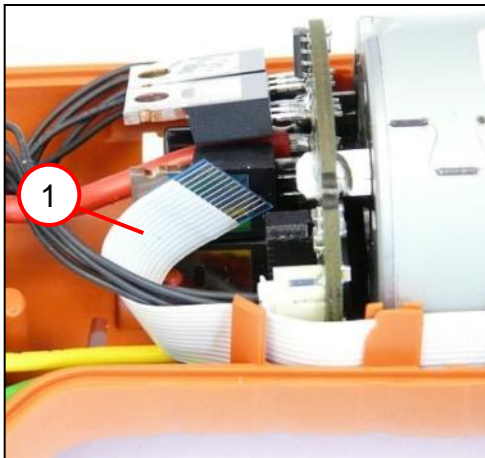
1. Remove two switch pushbuttons (1).
2. Remove leaf spring (2).
3. Remove pressure piece (3).

Tools:

-Flat-nose pliers

6. Disassembly

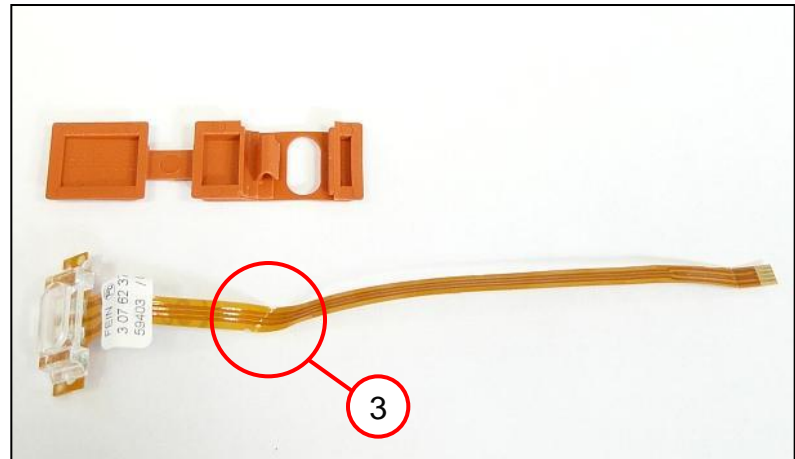
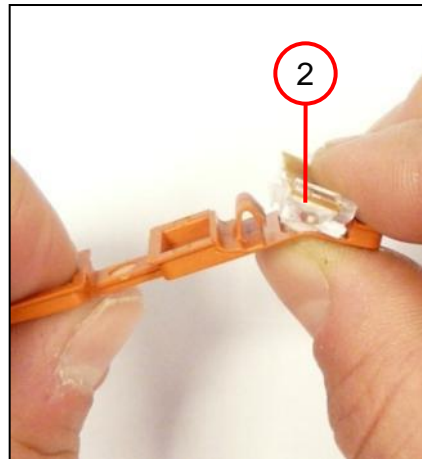
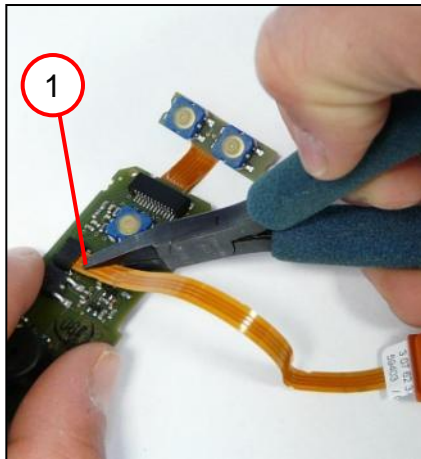
Disassembling electronics



1. Carefully remove ribbon cable (1) from plug on motor circuit board.
2. Take out electronics circuit board (2).
3. Carefully pull ribbon cable (3) from electronics circuit board.
4. Remove pressure piece (4) from ribbon cable.

6. Disassembly

Disassembling electronics



1. Holding electronic strip by reinforcement, carefully pull it out of plug.
2. Unclip LED with electronic strip from holder.

NOTE

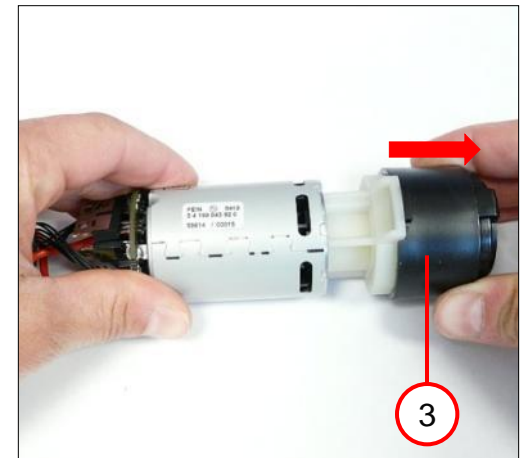
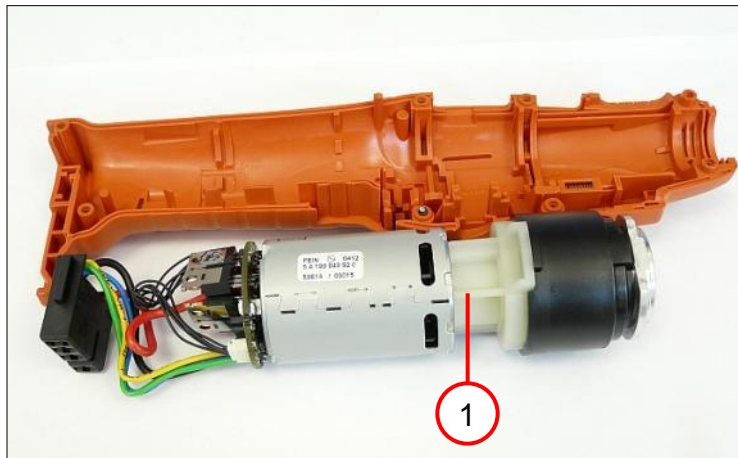
If electronic strip is defective, the replacement strip must be kinked slightly at the same place. The kink (3) is located between the two notches on the electronic strip.

Tools:

- Flat-nose pliers (without ridges)

6. Disassembly

Removing motor/gearbox unit



1. Remove motor/gearbox unit (1) from lower part of housing.
2. Remove bush (2) from gearbox.
3. Pull gearbox (3) from flange.

NOTE

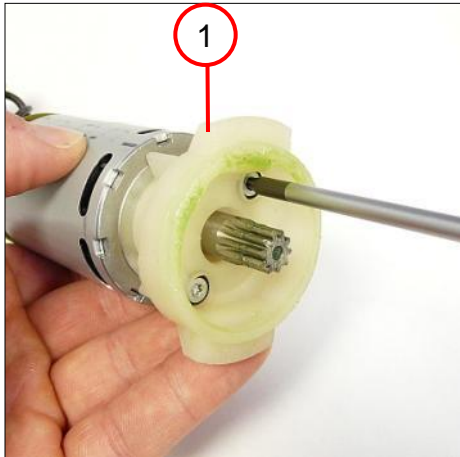
Do not pull gearbox jerkily as otherwise gear-wheels may fall out of gearbox housing.

☞ If gearbox has come apart, see assembly.



6. Disassembly

Removing motor/gearbox unit



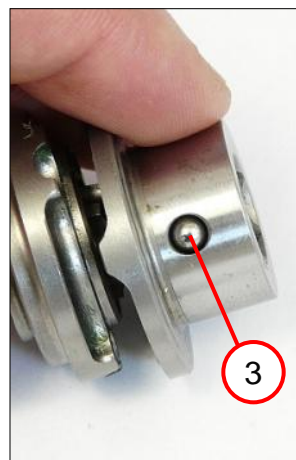
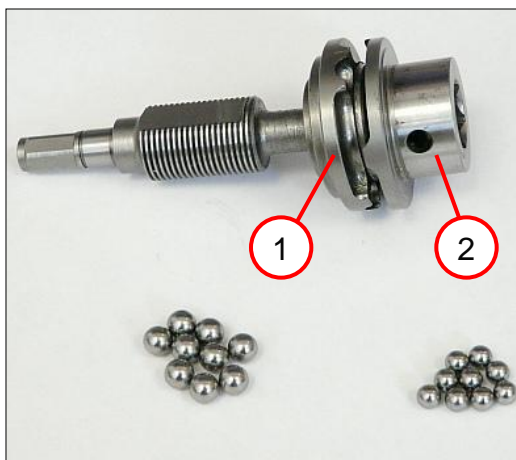
1. Unscrew flange (1).

Tools:

- Torx 10 screwdriver

7. Assembly

Fitting clutch



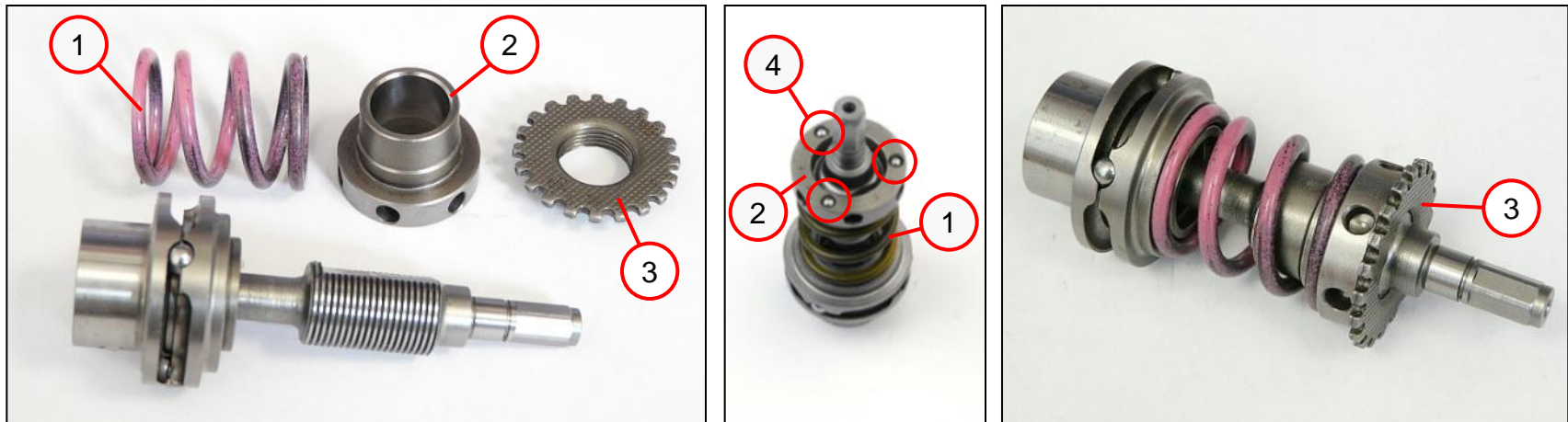
1. Coat end of tool holder and switch ring (2) with grease.
2. Slide cam ring (1) and switch ring (2) on to tool holder.
3. Insert the nine balls (3) [D=4mm] into hole on outer cam ring.
☞ The balls must be inside the cam ring and must not lie inside the hole.
3. Insert the nine balls (4) [D=5mm] into the recesses on the switch ring.
4. Slide switch ring (2) on to cam ring.

Tools:

-Grease (3 21 60 014 23 0)

7. Assembly

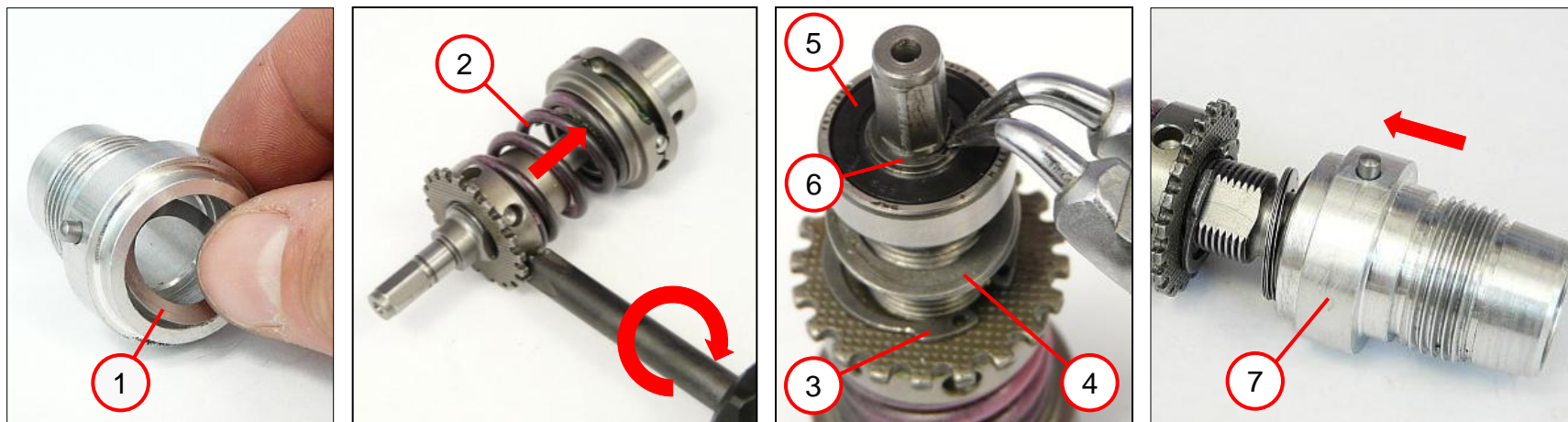
Fitting clutch



1. Slide spiral spring (1) and ring (2) on to tool holder.
2. Insert the three balls [D=3] (4).
3. Screw down adjusting ring (3) (left-handed thread).

7. Assembly

Fitting clutch (only with a new flange)



1. Insert disc(s) (1) in flange.

Note

Flange and gearbox are not supplied pre-assembled.

2. Fully tension spring (2).

3. Slide circlip (3), disc(s) (4) and grooved ball bearing (5) on to tool holder.

4. Insert circlip (6).

5. Slide flange (7) on to grooved ball bearing.

Tools:

- Circlip pliers
- Torque adjusting spanner



7. Assembly

Fitting clutch



1. Insert circlip (1).

NOTE

You need modified circlip pliers to fit the circlip.
The upper side of the pliers must be ground flat.

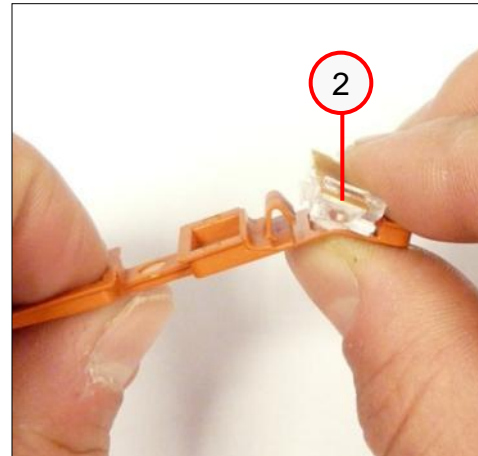
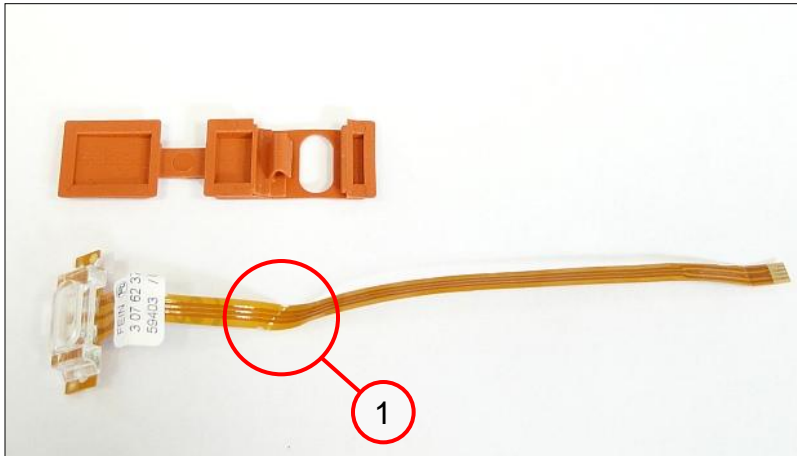
Tools:

- Circlip pliers (ground)



7. Assembly

Assembling electronics



NOTE

If electronic strip is defective, the replacement strip must be kinked slightly at the same place. The kink (1) is located between the two notches on the electronic strip.

1. Clip LED (2) with electronic strip into holder.

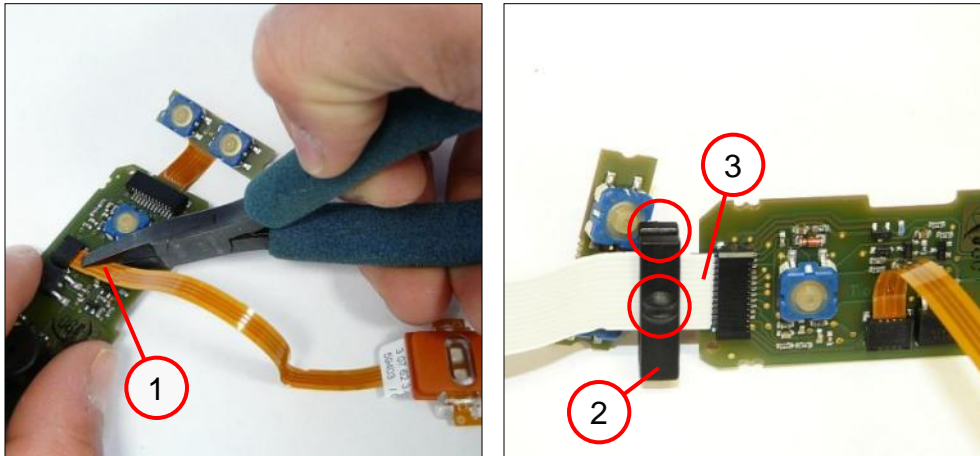
Tools:

-Flat-nose pliers (without ridges)



7. Assembly

Assembling electronics



1. Holding electronic strip (1) by reinforcement, insert it into plug.
2. Push pressure piece (2) on to ribbon cable.
3. Carefully connect ribbon cable (3) to electronics circuit board.

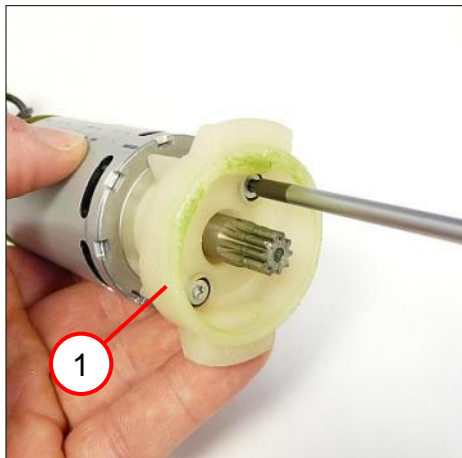
NOTE

The notches on the pressure piece must be at the top and on the operating side.



7. Assembly

Fitting motor/gearbox unit



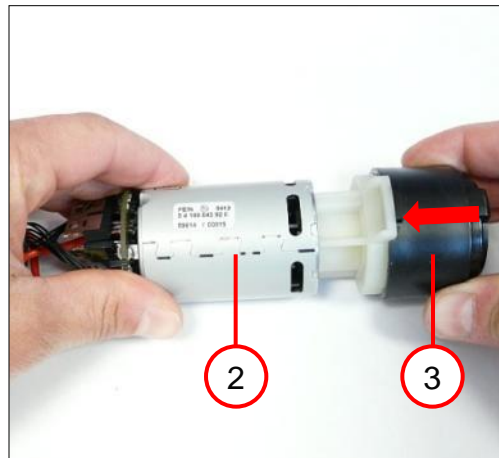
1. Position flange (1) on motor.
2. Screw down flange with two Torx screws and corresponding circlips.
3. Fit one circlip on each screw and tighten to 1.1 Nm.
4. If the gearbox falls out, reassemble it in the correct order as shown in the photo.

Tools:

- Torx 10 screwdriver

7. Assembly

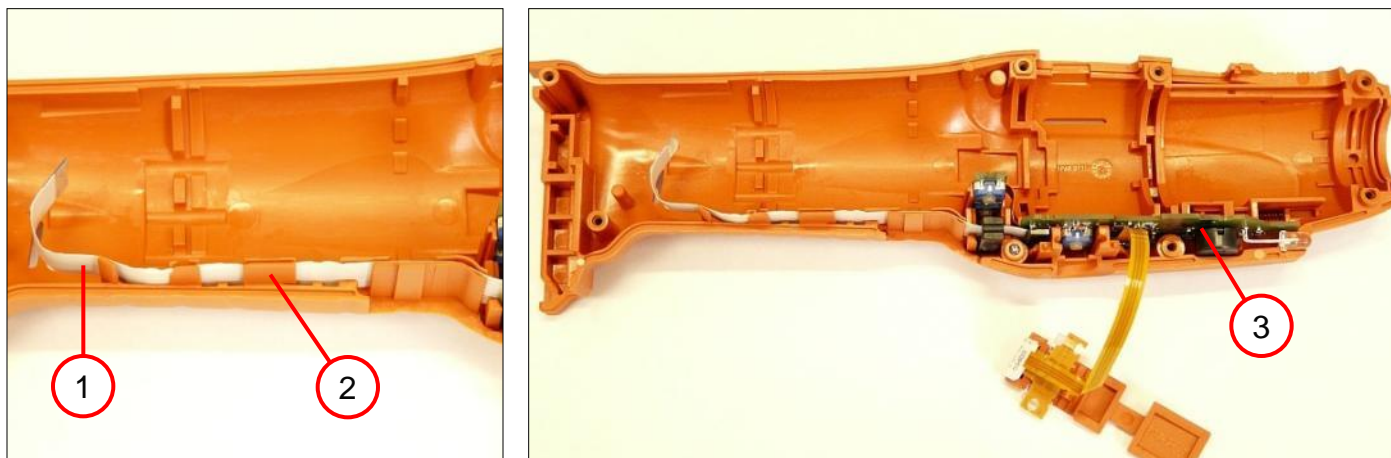
Fitting motor/gearbox unit



1. Insert circlip (1) into gearbox so that it is flush.
 - ☞ Ensure that circlip does not slip during assembly.
 - ☞ The three prongs on the circlip must lie snugly inside the teeth.
2. Join gearbox (3) to motor (2).
3. Join bush (4) to gearbox.

7. Assembly

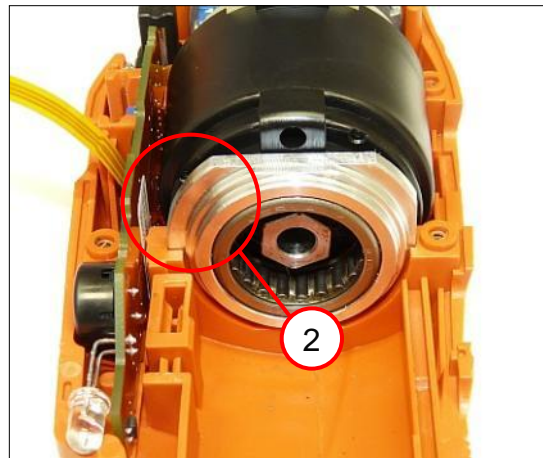
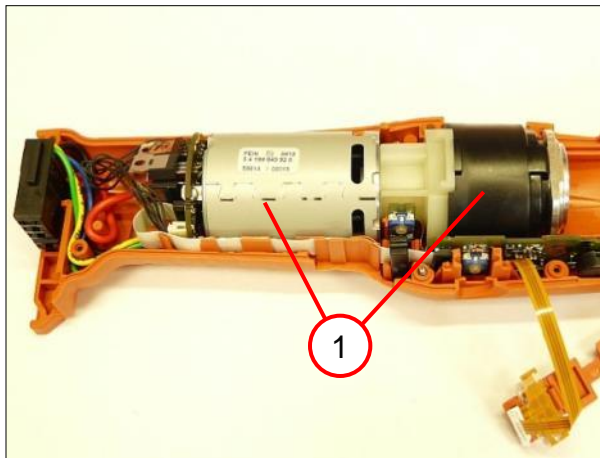
Assembling electronics



1. Insert ribbon cable (1) in guides (2).
2. Insert electronics circuit board (3) in lower part of the housing.

7. Assembly

Fitting motor/gearbox unit



1. Insert motor/gearbox unit (1) in lower part of housing.

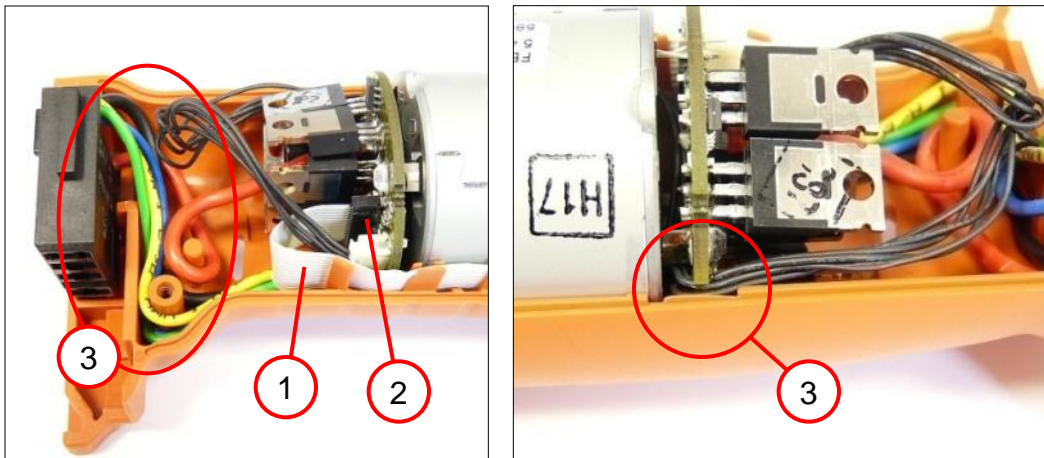
NOTE

Ensure that no cables become trapped. The rounded side of the bush (2) must be on the operating side.



7. Assembly

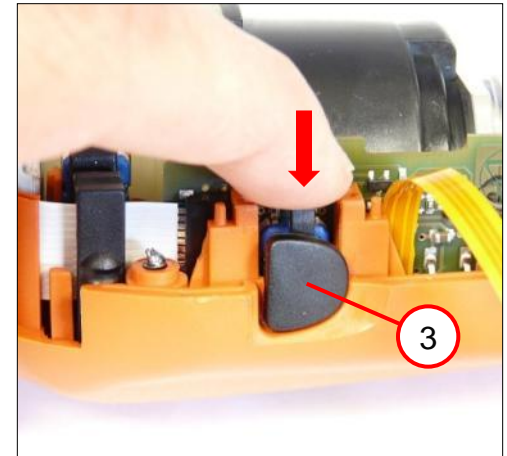
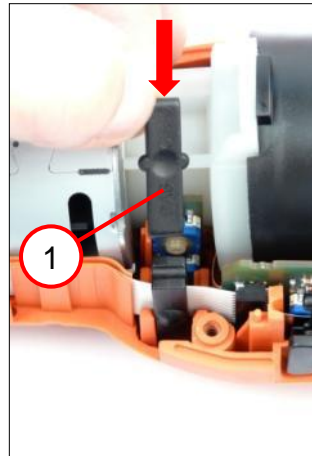
Routing the cables



1. Carefully insert ribbon cable (1) in plug (2) on motor circuit board.
2. Route cables (3) as shown.

7. Assembly

Fitting switch pushbuttons



1. Insert switch pushbutton (1) in housing.

☞ The switch pushbutton and pressure piece must be flush at the top (2).

NOTE

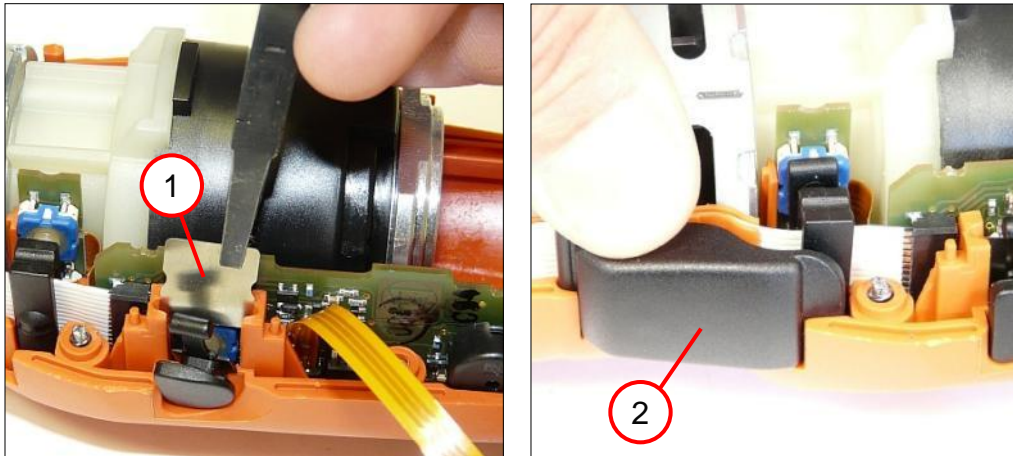
The round depression in the switch pushbutton must be on the operating side.

2. Insert switch pushbutton (3) in housing.



7. Assembly

Fitting switch pushbuttons



1. Insert leaf spring (1) in recess behind small switch pushbutton.

NOTE

The notches on the leaf spring are on the side and the curvature of the spring must face the operating side.

2. Insert switch pushbutton (2) in housing.

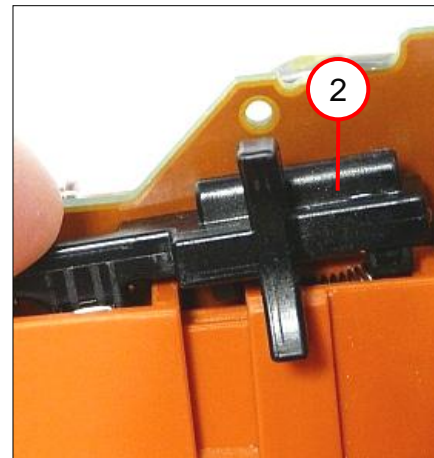
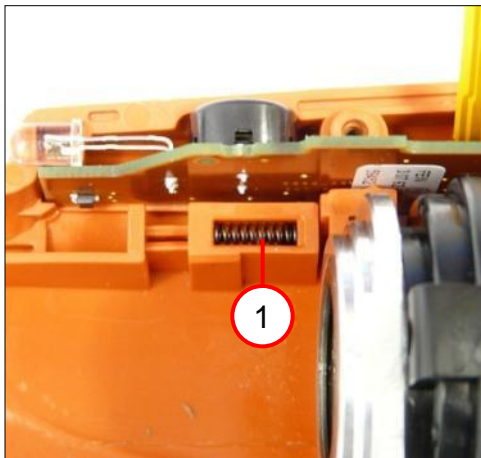
Tools:

- Flat nose pliers



7. Assembly

Fitting slide switch



There is a small spring under the slide switch for the torque shut-off. The spring pushes the slide switch into its home position.

1. Insert spring (1).
2. Tension spring (1) with a small screwdriver.
3. Insert slide switch (2).

NOTE

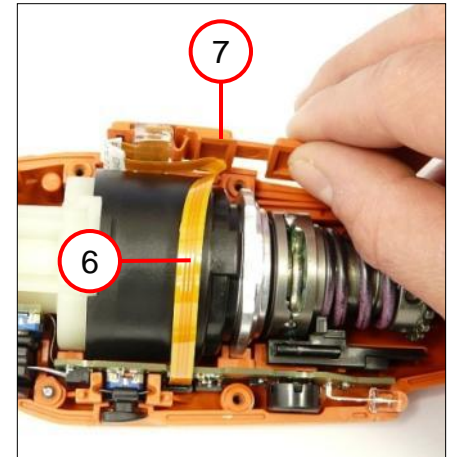
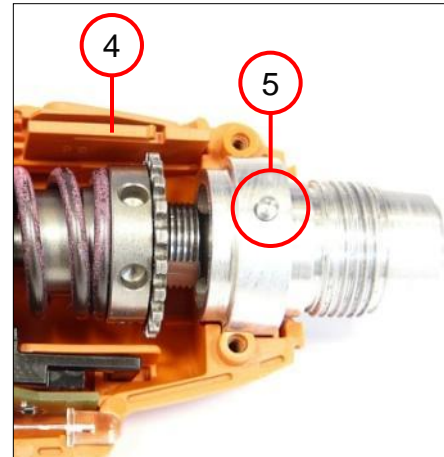
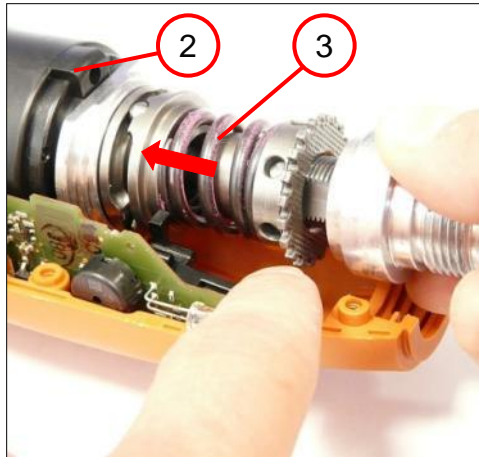
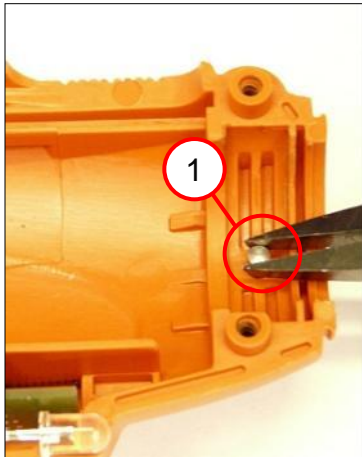
For the rest of the assembly process, keep the slide switch continually pressed down to prevent the slide switch and spring from jumping out again.

Tools:

- Slotted screwdriver (small)

7. Assembly

Fitting motor/gearbox unit



1. Insert straight pin (1) in lower part of housing.
2. Lift motor (2) slightly and insert clutch (3) in bush.
3. Insert motor with clutch in housing.
4. Fit cover (4).
5. Put straight pin (5) into hole in flange.
6. Arrange folded electronic strip (6) as shown.
7. Insert holder (7) with LED in housing.

Tools:

- Flat-nose pliers



7. Assembly

Fitting motor/gearbox unit



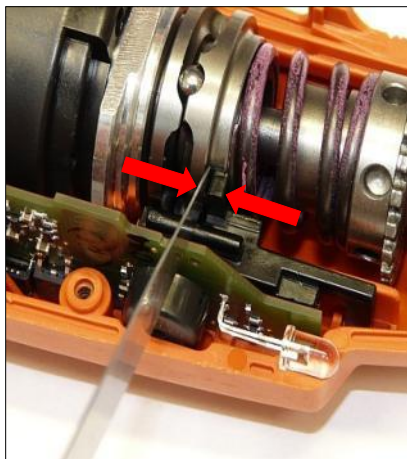
NOTE

Ensure that the cable is correctly kinked and installed in the correct position.



7. Assembly

Fitting motor/gearbox unit



NOTE

If you have fitted a new clutch, you must check the play.

1. Check play between switch ring and slide switch.

☞ Installation dimension 0.7 ± 0.3 mm.

☞ The installation dimension can be adjusted with the addition or removal of discs in front of and behind the ball bearing (see page 29).

Tools:

- Feeler gauge

7. Assembly

Assembling housing



1. Fit upper part of housing (1).



7. Assembly

Assembling housing



1. Screw in the eight screws (1).

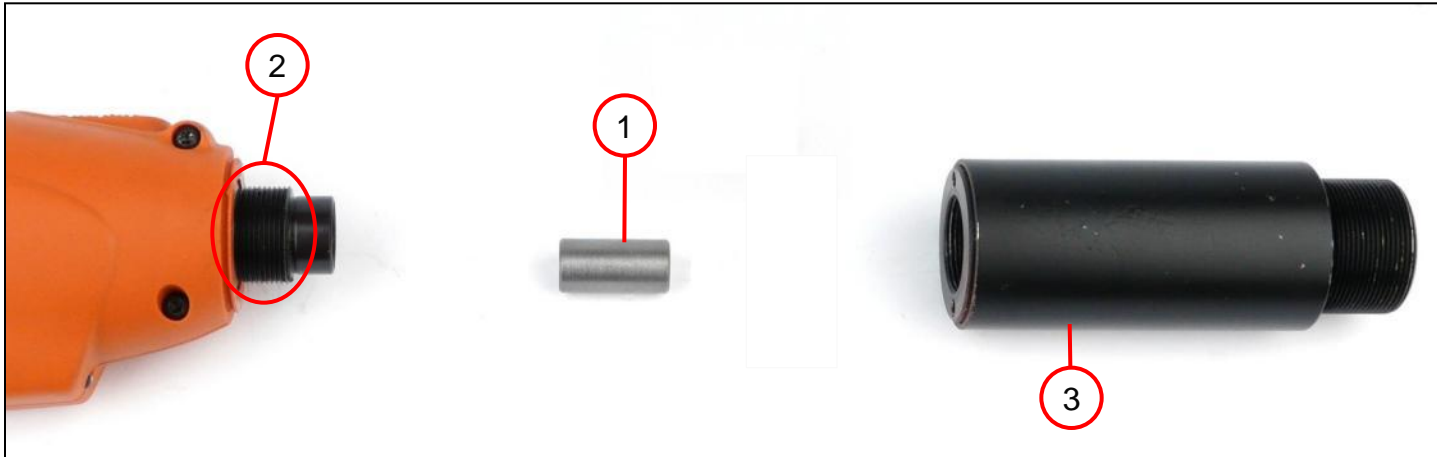
Tools:

- Torx T10 screwdriver



7. Assembly

Fitting planetary gear



1. Insert connector (1).
2. Apply Loctite 638 to flange (2).
3. Screw on thread (3) (left-handed thread).

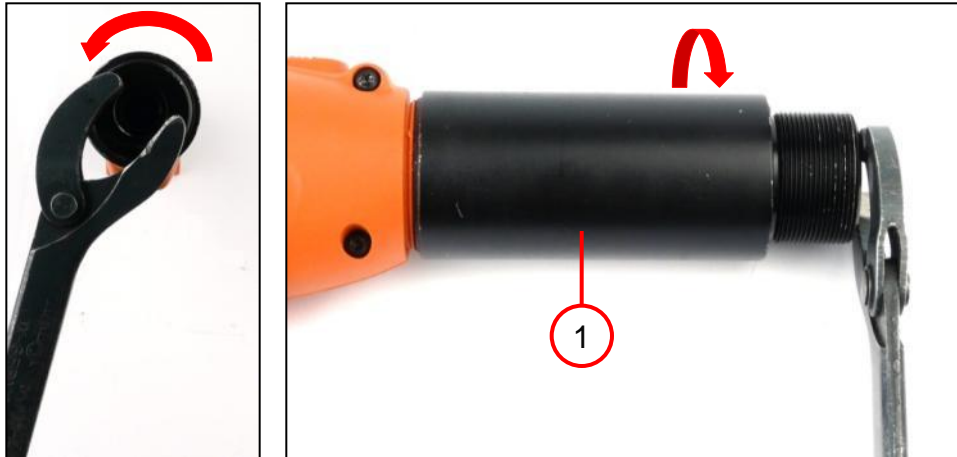
Tools:

- Adjustable pin wrench
- Loctite 638



7. Assembly

Fitting planetary gear



1. Tighten planetary gear (left-handed thread) [11 Nm / 76 N].
☞ Leave Loctite to harden for 24 hours before commissioning.

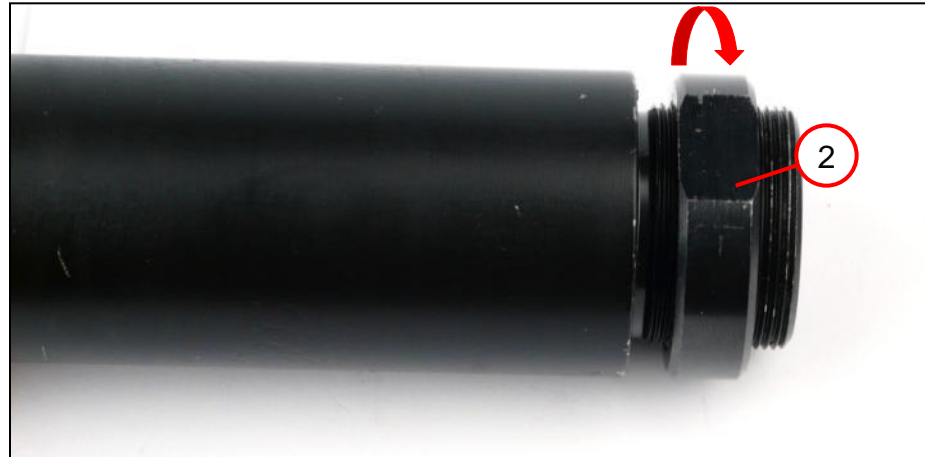
Tools:

- Adjustable pin wrench
- Spring balance



7. Assembly

Fitting planetary gear



1. Slide on round seal ring (1).
2. Screw on thread ring (2) as far as stop (left-handed thread).

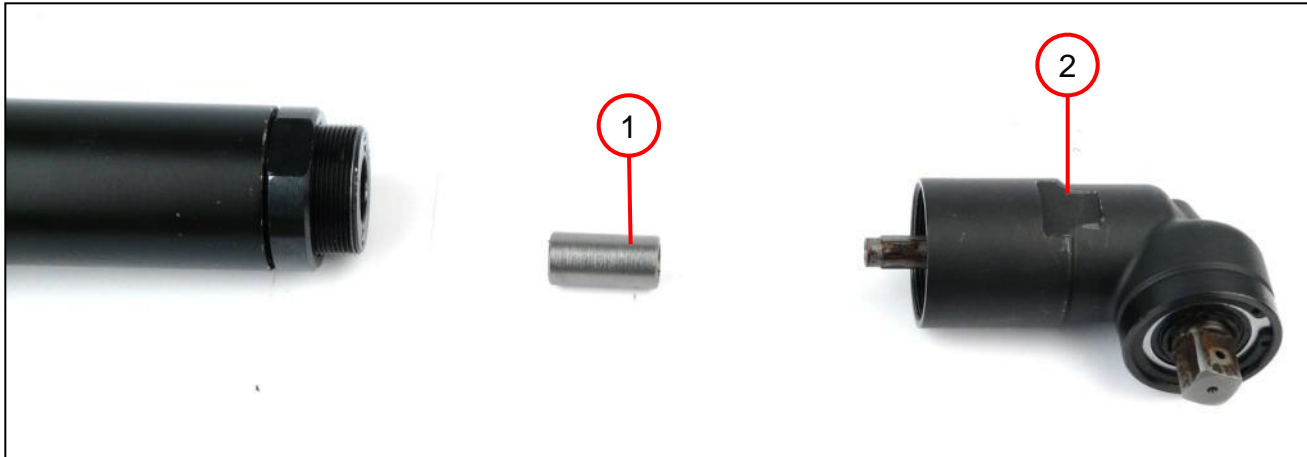
Tools:

- Open-ended spanner, WAF 32



7. Assembly

Fitting angled head



1. Insert connector (1).
2. Screw on angled head (2) (left-handed thread).

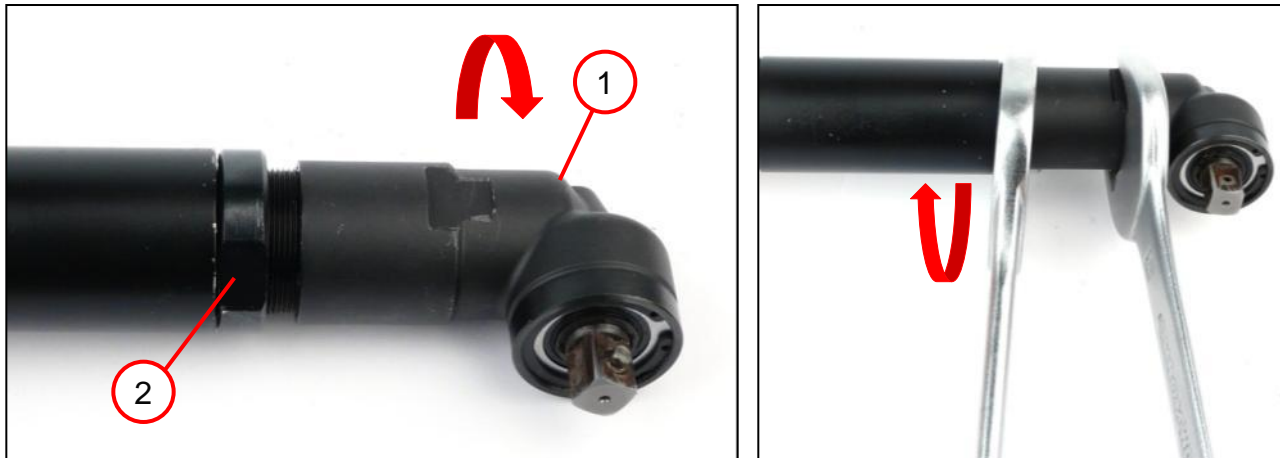
Tools:

- Open-ended spanner, WAF 27
- Open-ended spanner, WAF 32



7. Assembly

Fitting angled head



1. Screw on angled head (1), as far as stop (left-handed thread).
2. Grip angled head (1) and lock with thread ring (2) [40⁺⁵ Nm].
 - ☞ The angled head can be aligned first if desired.

Tools:

- Open-ended spanner, WAF 27
- Open-ended spanner, WAF 32



8. Troubleshooting

See separate file on Extranet or retail partner portal.

9. Connection diagram

